	A	B	C	D	E	F	G
1	Effect of various factors on the recovery of sucralose in crystallization schemes						
2			1 Recrystallization		3 Recrystallizations		
3	Purge of Impurities prior to Crystallization		None	50%	None	50%	75%
4			Sucralose Recovery				
5		1st Crystallizer	35%	43%	35%	43%	50%
6		1st Recrystallizer	37%	45%	38%	46%	52%
7		2nd Recyrstallizer			52%	57%	59%
8		3rd Recyrstallizer			58%	59%	60%
9			Sucralose Flow				
10							
11	Total feed to system		100	100	100	100	100
12	1st Crystallizer						
13		Total Feed	128	131	140	146	150
14		Crystals Produced	45	57	49	63	75
15		Mother Liquor	83	74	91	83	75
16	1st Recrystallizer						
17		Total Feed	45	57	64	86	105
18		Crystals Produced	17	26	24	40	55
19		Mother Liquor	28	31	40	46	50
20	2nd Recrystallizer						
21		Total Feed			31	51	71
22		Crystals Produced			16	29	42
23		Mother Liquor			15	22	30
24	3rd Recrystalizer						
25		Total Feed			16	29	42
26		Crystals Produced			9	17	25
27		Mother Liquor			7	12	17
28	Overall recovery of sucralose		17%	26%	9%	17%	25%
29				155%		186%	
30			Impurity Flow				
31	Total feed to system		100	50	100	50	25
32	1st Crystallizer						
33		Total Feed	110	55	111	56	28
34		Impurities in Crystals	11	5	11	6	3
35		Mother Liquor	99	49	100	50	25
36	1st Recrystallizer						
37		Total Feed	11	5	12	6	3
38		Impurtities in Crystals	1	1	1	1	0
39		Mother Liquor	10	5	11	6	3
40	2nd Recrystallizer						
41		Total Feed			1	1	0
42		Impurtities in Crystals			0	0	0
43		Mother Liquor			1	1	0
44	3rd Recrystallizer						
45		Total Feed			0	0	0
46		Impurtities in Crystals			0	0	0
47		Mother Liquor			0	0	0
48	Overall Impurity Removal		98.90%	98.90%	99.99%	99.99%	99.99%
49			Impurity Level in each Crystallizer				
50		Feed	50.00%	33.33%	50.00%	33.33%	20.00%
51		1st Crystallizer	46.13%	29.53%	44.32%	27.56%	15.62%
52		1st Recrystallizer	19.66%	8.82%	16.22%	6.72%	2.86%
53		2nd Recrystallizer			4.21%	1.30%	0.47%
54		3rd Recrystallizer			0.84%	0.23%	0.08%
55		Base Yield					

Figure 1

	A	B	C	D	E	F
1	Effect of vanous factors on the recovery of sucralose in crystallization					
2	schemes w/ Recrystallization of 1st Crystallizer Mother Liquour					
3	Impurity Purge Prior to Crystalization			**None**	**50%**	**75%**
4					**Sucralose Recovery**	
5		1st Crystallizer		40%	49%	54%
6		1st Recrystallizer		54%	58%	59%
7		2nd Recrystallizer		59%	60%	60%
8		3rd Recrystallizer		60%	60%	60%
9		1st m/l Recrystallization		35%	43%	49%
10					**Sucralose Flow**	
11	Total feed to system			100	100	100
12	1st Crystallizer					
13		Total Feed		189	207	221
14		Crystals Produced		76	100	119
15		Mother Liquor		113	106	102
16	1st Recrystallizer					
17		Total Feed		113	106	102
18		Crystals Produced		40	46	50
19		Mother Liquor		73	61	52
20	2nd Recrystallizer					
21		Total Feed		107	144	173
22		Crystals Produced		58	83	102
23		Mother Liquor		49	61	71
24	3rd Recrystallizer					
25		Total Feed		76	110	134
26		Crystals Produced		45	65	80
27		Mother Liquor		31	44	54
28	1st M/L Recrystallizer					
29		Total Feed		45	65	80
30		Crystals Produced		27	39	48
31		Mother Liquor		18	26	32
32	Overall recovery of sucralose			27%	39%	48%
33					**Impurity Flow**	
34	Total feed to system			100	50	25
35	1st Crystallizer					
36		Total Feed		123	62	31
37		Crystals Produced		12	6	3
38		Mother Liquor		111	56	28
39	1st Recrystallizer					
40		Total Feed		111	56	28
41		Crystals Produced		11	6	3
42		Mother Liquor		100	50	25
43	2nd Recrystallizer					
44		Total Feed				
45		Crystals Produced		14	7	3
46		Mother Liquor		1	1	0
47	3rd Recrystallizer			12	6	3
48		Total Feed				
49		Crystals Produced		2	1	0
50		Mother Liquor		0	0	0
51	1st M/L Recrystallizer			1	1	0
52		Total Feed				
53		Crystals Produced		0	0	0
54		Mother Liquor		0	0	0
55		m/l		0	0	0
56				**Impurity Level in each Crystallizer**		
57		Feed		50.00%	33.33%	20.00%
58		1st Crystallizer		39.56%	23.00%	12.24%
59		1st M/L Recrystallizer		49.64%	34.30%	21.39%
60		1st Recrystallizer		11.34%	4.53%	1.94%
61		2nd Recrystallizer		1.94%	0.68%	0.28%
62		3rd Recrystallizer		0.33%	0.12%	0.05%

Figure 2

	A	B	C	D	E	F	G	H	I	J	K
1	Effect of required purity on yield and the improvements seen with impurity pre-purge										
2				one recrystallization		three recrystallizations		five recrystallizations		five recrystallizations and re-crop	
3								Sucralose Recovery			
4	Purge of Impurities prior to Crystallization			None	50%	None	50%	None	50%	None	50%
5	1st Crystallizer			36%	44%	36%	45%	37%	45%	38%	47%
6	1st Recrystallizer			43%	51%	45%	53%	45%	53%	47%	55%
7	2nd Recrystallizer					52%	57%	53%	58%	55%	58%
8	3rd Recrystallizer					57%	59%	58%	59%	58%	59%
9	4th Recrystallizer							60%	60%	59%	60%
10	5th Recrystallizer							60%	60%	60%	60%
11	1st Re-Crop									35%	43%
12	Purity			80.08%	92.36%	97.59%	99.31%	99.83%	99.95%	99.87%	99.96%
13	Overall Yield			19%	29%	12%	21%	10%	19%	18%	32%
14	Yield Improvement w/ purge				150%		178%		184%		180%
15				one recrystallization		three recrystallizations		five recrystallizations		five recrystallizations and re-crop	
16	Purge of Impurities prior to Crystallization			None	50%	None	50%	None	50%	None	50%
17								Sucralose Flow			
18	Total feed to system			100	100	100	100	100	100	100	100
19	1st Crystallizer										
20	Total Feed			126	127	138	143	141	147	206	224
21	Crystals Produced			45	56	50	64	51	66	79	106
22	Mother Liquor			81	71	88	79	90	81	127	119
23	1st Recrystallizer										
24	Total Feed			45	56	69	91	75	101	117	162
25	Crystals Produced			19	29	31	48	34	54	55	88
26	Mother Liquor			26	27	38	43	41	47	61	73
27	2nd Recrystallizer										
28	Total Feed					40	63	50	82	83	135
29	Crystals Produced					21	36	27	47	45	79
30	Mother Liquor					19	27	23	35	38	56
31	3rd Recrystallizer										
32	Total Feed					21	36	39	69	66	115
33	Crystals Produced					12	21	22	41	38	68
34	Mother Liquor					9	15	16	28	28	46
35	4th Recrystallizer										
36	Total Feed							29	54	50	90
37	Crystals Produced							17	32	30	54
38	Mother Liquor							12	21	21	36
39	5th Recrystallizer										
40	Total Feed							17	32	30	54
41	Crystals Produced							10	19	18	32
42	Mother Liquor							7	13	12	21
43	1st Re-crop Recrystallizer										
44	Total Feed									127	119
45	Crystals Produced									45	51
46	Mother Liquor									82	68
47	Overall recovery of sucralose			19%	29%	12%	21%	10%	19%	18%	32%
48					150%		178%		184%		180%

Figure 3a

	A	B	C	D	E	F	G	H	I	J	K
49				one recrystallization		three recrystallizations		five recrystallizations		five recrystallizations and re-crop	
50	Purge of Impurities prior to Crystallization			None	50%	None	50%	None	50%	None	50%
51				Impurity Flow							
52	Total feed to system			100	50	100	50	100	50	100	50
53	1st Crystallizer										
54		Total Feed		119	60	125	62	125	62	156	78
55		Impurities in Crystals		24	12	25	12	25	12	31	16
56		Mother Liquor		95	48	100	50	100	50	125	62
57	1st Recrystallizer										
58		Total Feed		24	12	31	15	31	16	39	20
59		Impurities in Crystals		5	2	6	3	6	3	8	4
60		Mother Liquor		19	10	25	12	25	12	31	16
61	2nd Recrystallizer										
62		Total Feed				7	4	8	4	10	5
63		Impurities in Crystals				1	1	2	1	2	1
64		Mother Liquor				6	3	6	3	8	4
65	3rd Recrystallizer										
66		Total Feed				1	1	2	1	2	1
67		Impurities in Crystals				0	0	0	0	0	0
68		Mother Liquor				1	1	2	1	2	1
69	4th Recrystallizer										
70		Total Feed						0	0	1	0
71		Impurities in Crystals						0	0	0	0
72		Mother Liquor						0	0	0	0
73	5th Recrystallizer										
74		Total Feed						0	0	0	0
75		Impurities in Crystals						0	0	0	0
76		Mother Liquor						0	0	0	0
77	1st recrop										
78		Total Feed								125	62
79		Impurities in Crystals								25	12
80		Mother Liquor								100	50
81	Overall Impunty Removal			95.238%	95.238%	99.707%	99.707%	99.982%	99.982%	99.977%	99.977%
82				one recrystallization		three recrystallizations		five recrystallizations		five recrystallizations and re-crop	
83	Purge of Impunties prior to Crystallization			None	50%	None	50%	None	50%	None	50%
84				Impurity Level in each Crystallizer							
85		Feed		50.00%	33.33%	50.00%	33.33%	50.00%	33.33%	50.00%	33.33%
86		1st Crystallizer		48.64%	31.85%	47.38%	30.36%	46.99%	29.81%	43.15%	25.84%
87		1st Recrystallizer		34.67%	17.50%	30.75%	14.49%	29.40%	13.40%	25.07%	10.76%
88		2nd Recrystallizer				15.49%	5.53%	13.39%	4.55%	10.50%	3.48%
89		3rd Recrystallizer				6.56%	2.01%	4.75%	1.38%	3.52%	1.04%
90		4th Recrystallizer						0.52%	0.14%	1.51%	0.43%
91		5th Recrystallizer						0.17%	0.05%	0.75%	0.21%
92		recrop feed								49.65%	34.51%
93		Base Yield		60%							
94		Effect Factor		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
95		1st Crystallizer		36%	44%	36%	45%	37%	45%	38%	47%
96		1st Recrystallizer		43%	51%	45%	53%	45%	53%	47%	55%
97		2nd Recrystallizer				52%	57%	53%	58%	55%	58%
98		3rd Recrystallizer				57%	59%	58%	59%	58%	59%
99		4th Recrystallizer						60%	60%	59%	60%
100		5th Recrystallizer						60%	60%	60%	60%
101		recrop feed								35%	43%

Figure 3b

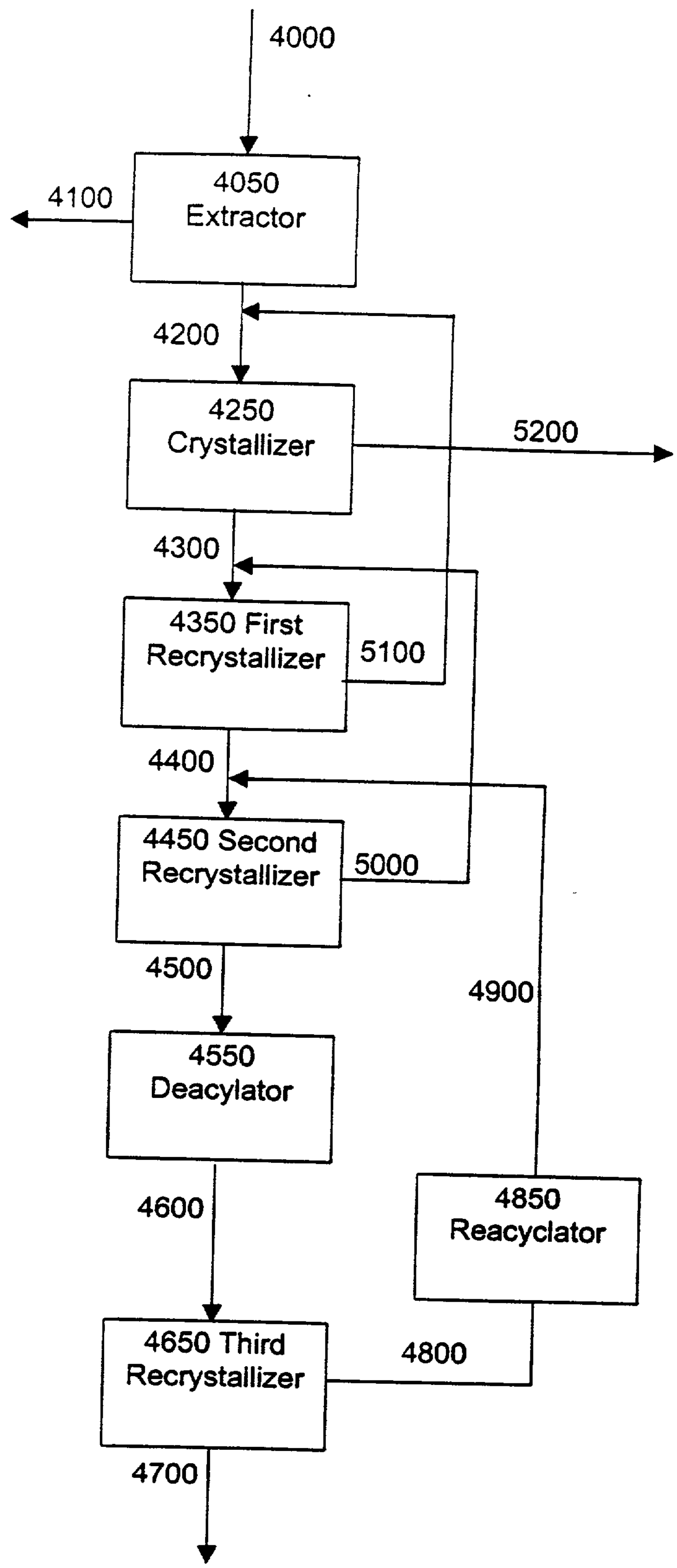

Figure 8

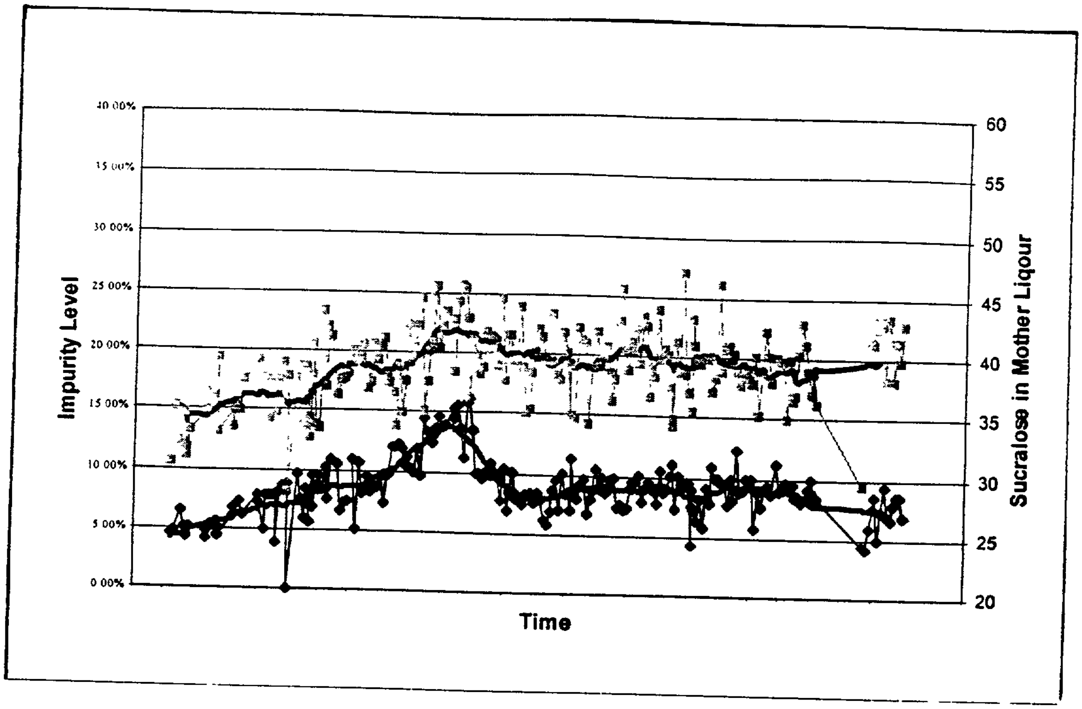

Figure 10a

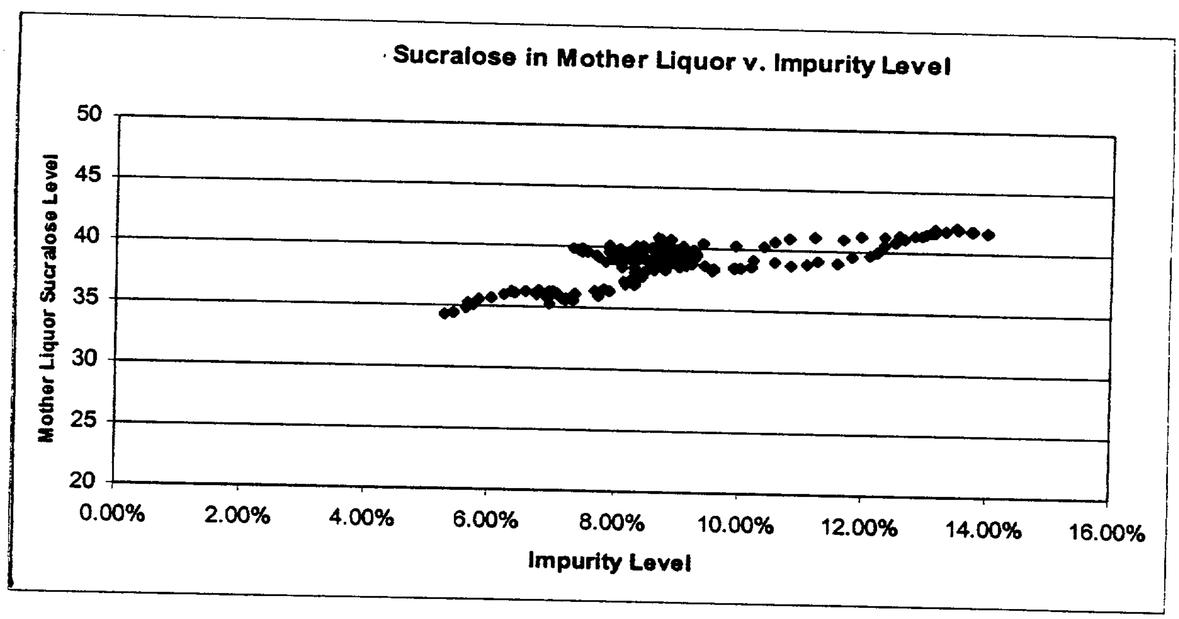

Figure 10b

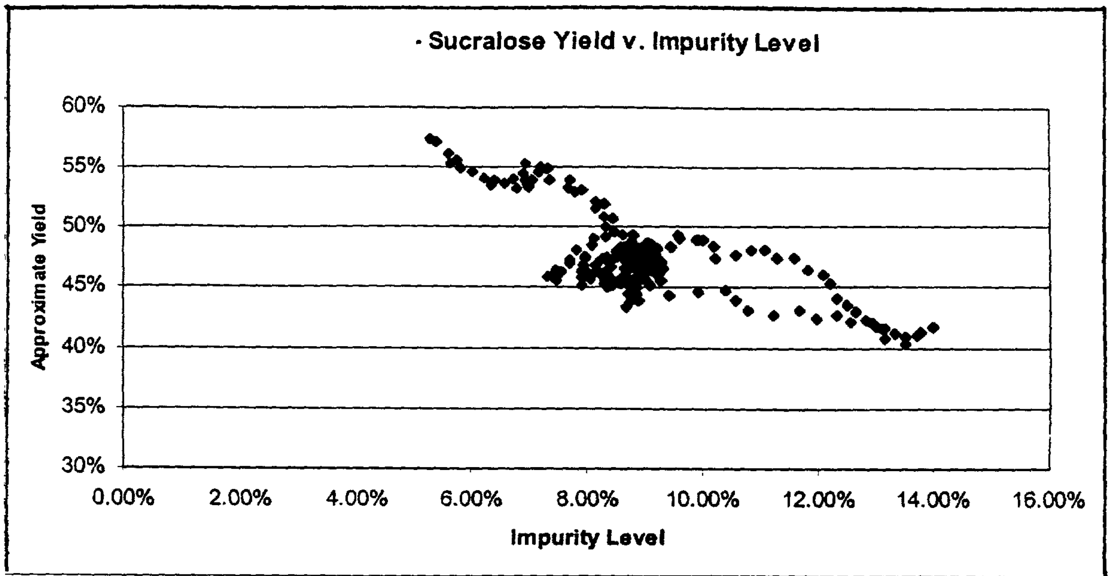

Figure 10c